# ENTOMOLOGICAL NEWS

AND

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## TWO NEW SPECIES OF TRICHODECTES (MALLOPHAGA).


By BERTHA CHAPMAN, Stanford University, California.


*Trichodectes* is one of the two genera of Mallophaga found on mammals. *Gyropus*, the other of these has been found only on the guinea-pig. The species of *Trichodectes*, however, of which about thirty are known, are found on various hosts. Of these thirty species sixteen have been recorded from American hosts. The type specimens of these two species are in the collections of Stanford University.

**Trichodectes quadraticeps** n. sp. (Fig. 1).

Several specimens taken from a fox, *Urocyon virginianus* (Palo Alto, Cala.).

*Description of Female.*—Body length 1.1 mm., width .61 mm.; broad, pale golden brown, with dark bands and spots on head and thorax, and paler transverse bands on the abdomen.

Head length .35 mm., width .44 mm ; broad, temples little wider than forehead; front with a distinct concavity; sides of front evenly and broadly rounding, with three short hairs each side of the median concavity, one short hair in front of the trabeculæ, which are large; antennæ short, with three segments of about equal length, a few scattered hairs; eyes large, with a fine hair; temples slightly rounding, several spines and hairs on the margin; occipital margin nearly straight; general color golden brown,

antennal bands of darker brown, anterior ends bending in at the clypeal concavity ending in broad, even blotches, the posterior ends also darker in front of the antennæ; dark ocular blotches; mandibles dark brown, showing through the head; an even dark band on the occipital margin and occipital bands distinct posteriorly.

Prothorax narrow, lateral margin rounding, with one pustulated hair near the lateral margin; dark golden brown lateral blotches widely separated anteriorly by a paler median space; these dark blotches are interrupted laterally by a distinctly paler circular spot; metathorax narrow, sides convex and strongly divergent; seven strong hairs on the first third of the posterior margin, which is obtusely angulated each side of the median line and its median portion is angularly concave upon the abdomen; general color paler than the prothorax, a darker lateral blotch which is interrupted by a pale space in which the hairs are placed; legs weak, with no distinct markings, a few scattered hairs.

Abdomen broad, tapering posteriorly but little; angles of the segments not prominent, with a single short hair; few dorsal hairs, but these are more numerous near the lateral half of the segment; last segment long, with a narrow posterior emargination, each side of which are two strong hairs; general color pale golden brown, slightly darker medially; transverse blotches of the ventral surface showing through the dorsal surface of segments two to seven; the appendages of segment eight are distinctly darker brown on their tips.

*Male.*—Body length .93 mm., width .55 mm.; head length .28 mm., width .38 mm. Abdomen more nearly oval than in female; last segment not more than half as wide as the preceding segment, posterior margin nearly straight, with acute lateral angles; genitalia slender, distinctly showing through the body; in general coloring and markings closely resembling the female.

**Trichodectes californicus** n. sp. (Fig. 2).

One female taken from a pocket mouse, *Perognathus* sp., Baja California. Resembling, in general, *T. retusus* Witzsche, from a weasel, and *T. geomydis* Osborn from a pocket gopher, and *T. nephilidis* Osborn from a polecat.

*Description of female.*—Body length 1.37 mm., width .84 mm.; short, broad, pale yellowish white, without definite markings, except on the front of head.

Head length .33 mm., width .5 mm.; anterior margin with a deep incision; sides of the front receding rapidly to the sharply angulated trabeculæ; four or five short hairs on the anterior margin and a group of short hairs in front of the indistinct suture; antennæ long and large, reaching beyond the temporal margin when extending back; the segments of about equal length, some scattering hairs; eye prominent, with a faint hair; temples rounding with six or seven marginal hairs and spines; occipital margin nearly straight and without hairs or spines; general color

pale golden brown; antennal bands darker brown, narrow, marginal, bending inward anteriorly, ending in distinct spots each side of the clypeal incision, a circular pale spot in front of the mandibles, which are dark brown, a dark ocular blotch; occipital blotches pale brown, yet distinct.

Prothorax long and wide; sides slightly rounding; posterior margin medially convex; a strong pustulated hair in the rounding posterior angle and two short, fine hairs near the median line; pale golden brown, slightly darker in the posterior angle; metathorax short, sides nearly straight, an interrupted transverse series of fourteen long hairs arranged in groups, two near the anterior lateral angle, three nearer the median line, and two others each side of the median line; there are also two short hairs near the posterior margin each side of the median line; general color pale golden brown, with no distinct lateral blotches; legs stout, pale, with darker semi-annulations and scattered hairs.

Abdomen broadly oval, reaching its greatest width at the third segment, then tapering rapidly to the last segment; a transverse series of strong hairs on each segment from one to six, being more numerous and spine like near the lateral margin; first two segments with short spines on the lateral margin; last segment narrowly emarginate with four strong hairs each side of the emargination and four strong dorsal hairs near the lateral anterior margin; ground color paler brown than the head on thorax; first three segments with slightly darker lateral bands.

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## THE BEE MOTH.

By Mrs. C. B. AARON, Phila., Pa.

In all warm countries where the honey-bee is found we may also expect its natural enemy, the bee-moth. When the early English colonists in the seventeenth century brought to America the "White man's fly" as the Indians called the bee, with it came the deadly pest whose ravenous appetite had suggested to Swammerdam the appropriate name of "Bee-wolf."

Beyond a certain altitude this troublesome moth is not to be seen. De Rauschenfels was unable to find it in the mountains of Prussia 2900 feet above the sea, although for years he watched hives both with and without bees. In bleak and cold localities where the summers are short and the hives exposed to the winds, the moth is rarely seen. In the tropics there exist the most favorable conditions for the moth's comfort. According to Hanneman the bees in Brazil have a hard struggle, and Mr. Benton asserts that bee culture in certain regions in India is difficult on account of the moth.

There are two kinds of moths infesting bee-hives having similar habits, but distinguishable in their size, *Galleria mellonella*, the species under consideration, being much the larger. The generic name *Galleria* was derived from the Latin word "Gallina," meaning "fowl," and was given to the insect by Linnæus because the wings of the moth at rest resembled the tail of a fowl; he also added the specific name "mellonella" from the Latin "mel," or honey, supposing that the food of the caterpillar was the nectar contained in the comb. Later discoveries by Fabricius resulted in a correction of the name, changing it to "cereana," from "cera," Latin for wax. The original name, however, by Linnæus will remain the permanent one, although both naturalists were wrong in their conclusions that honey or wax was the chief diet.

It is not among healthy colonies of bees that the moth may be considered a formidable enemy, but it is undoubtedly a pest in unprotected brood combs. In the honey-house or store-room, where such have been deposited, the moth if unmolested finds the right element for her progeny. Colonies will sometimes become weakened either by poor wintering or the loss of a queen, and into these the prolific moth will gain an entrance, and before long the discouraged and forlorn bees find they are "eaten out of house and home."

In the months of April and May, toward dusk, the bee-keeper may readily discover the ashy-brown moth dodging about the hive's entrance; unlike most other moths in their more honorable habits of flight she will crawl and run artfully around like a robber bee, watching for the coveted opportunity to pass the sentinels, who also see her. If the bees are sufficiently alert in preventing her admission the moth explores the cracks and corners about the bottom board depositing her eggs sometimes in clusters or often singly in the dust made by plates of wax and pollen accidentally dropped by the bees in the haste of unloading on a busy day. These particles furnish the first few meals to the newly-hatched worms, whose increasing appetites soon direct them to the greater feast inside the hive.

The caterpillar, when full grown measures about an inch and an eighth, is a dirty white with tiny dots and microscopic hairs. Its dark brown head is furnished with powerful mandibles, required not so much in breaking wax as in burrowing through

wood and carving out a resting place for its last stage as a worm on the edges of frames and narrow spaces of the hive often made harder by the coverings of propalis.

The caterpillars are social in their habits, hundreds congregating on the same comb, although each has an individual tunnel in which to spend its prescribed time, lengthening and expanding it according to necessity with positive "no admittance" at either end. When disturbed or alarmed the worm moves rapidly within its silken gallery in either direction and on account of the density of the tube may be more easily seen when held up to the light.

The natural food of the caterpillar is neither wax or honey, as was supposed, but the cast-off skins of the bee larvæ and the pollen contained in the brood combs. A diet of wax alone does not furnish sufficient nutriment to enable the worm to spin silk. The majority of worms with which I have experimented upon a wax diet reached the chrysalis stage—most of them without any cocoon, while some completed their transformations beneath a shabby apology of a gauze covering adulterated with particles of the pasteboard box containing them. Of the very few which emerged, nearly all were undersized and imperfect. In no instance of a wax-reared female have I seen the usual healthy condition always to be found in a female produced among the comb containing the animal tissues and pollen. I doubt whether a second generation could be raised from individuals whose existence had been due to wax alone.

The length of time from the egg to the perfect moth differs according to the weather and the amount of food available. A scanty supply will retard development much beyond the usual time. The two broods in this section of country appear in May and July. Egg-laying continues all Summer until October. All of the worms which are overtaken by cold weather pass the Winter in their cocoons, and are prepared to emerge during any balmy evening in April in quest of fresh pasture.

A well-known enthusiast in bee culture, Mr. Henry K. Oliver, after enlarging upon the mischief caused by mice, toads, ants, spiders, wasps and gallinaceous birds, says it is but a baby bite compared to the destruction caused by the bee-moth, and concludes his remarks with the following:

"He who shall be successful in devising the means of ridding the bee world of this destructive and merciless pest will richly

deserve to be crowned 'King Bee' in perpetuity, to be entitled to a never-fading wreath of budding honey flowers from sweetly breathing fields all murmuring with bees, to be privileged to use night tapers from their waxen thighs, best wax candles (two to the pound), to have an annual offering from every bee master of ten pounds each of very best virgin honey, and to a body guard for protection against all foes, of thrice ten thousand workers, all armed and equipped as Nature's laws direct. Who shall have these honors?"

The most eligible claimant to such fame was the inventor of the movable frame hive, Mr. Langstroth, whose death occurred during the present year. Every well-informed bee-keeper appreciates the facility with which such a hive may be examined to ascertain the strength of the colony or the presence of the moth-worm and the easy transference from one hive to another.

All worm-infested combs should be subjected to the fumes of sulphur, then rinsed in water to remove as much of the débris as possible and placed in the midst of a strong colony; the bees will soon prepare them for the reception of eggs and pollen. Unoccupied hives and broken brood comb should never be left exposed in an apiary.

A parasite of the bee-moth has been described in a French journal. It is a tiny hymenopterous insect which lays its eggs on the worm, and the little larvæ, exceedingly numerous, nourish themselves at the worm's expense until nothing is left but the skin of the victim, upon which the parasites spin cocoons, from which the winged insects appear.

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## THE DISTRIBUTION OF SOME N. AMERICAN SYRPHIDÆ.

By Oliver S. Westcott, Sc.D.

Prof. Hunter's article in the June "Canadian Entomologist," with regard to North American Syrphidæ, leads me to compile a list of Syrphidæ taken by myself in various parts of the country. The memoranda may be useful to any who are engaged in advancing our knowledge of this family of a somewhat neglected order.

*Chrysotoxum derivatum* Walk., Br. Col., July, 1890.
*Paragus angustifrons* Loew, N. Ill.
*Paragus bicolor* Fab., N. Ill.
*Chrysogaster pulchella* Will., N. Ill.
*Chrysogaster nitida* Wied., N. Ill.
*Chilosia capillata* Loew, N. Ill.
*Melanostoma mellinum* Linn., N. Ill., R. I.
*Platychirus quadratus* Say, N. Ill.
*Syrphus arcuatus* Fall., Col.
*Syrphus arcuatus* v. *lapponicus* Zett. Victoria, B. C., Aug., 1890.
*Syrphus diversipes* Macq., B. C., July, 1890.
*Syrphus ribesii* Linn., N. Ill., Mich., Wis., Can.
*Syrphus torvus* O. S., N. Ill.
*Syrphus abbreviatus* Zett., N. Ill.
*Syrphus lesueurii* Macq., R. I., N. Y., Gl. House, Br. Col., July, '90.
*Syrphus americanus* Wied., N. Ill., R. I.
*Syrphus opinator* O. S., N. Ill., Gl. House, Br. Col., July, 1890; Nanaimo, Vanc. Island, Aug., 1890; Elko, Nev., Aug., 1892.
*Syrphus umbellatarum* Schin., Fort Wrangel, Alaska, Aug., 1892.
*Didea fuscipes* Loew, N. Ill.
*Allograpta obliqua* Say, N. Ill., N. Y., R. I., Quebec, Mexico.
*Mesograpta polita* Say, N. Ill.
*Mesograpta parvula* Loew, N. Ill., Cala., Fla.
*Mesograpta marginata* Say, N. Ill.
*Mesograpta geminata* Say, N. Ill.
*Sphærophoria cylindrica* Say, N. Ill., Quebec, N. Y., Minn., Nova Scotia.
*Baccha babista* Walk., Mex.
*Volucella satur* O. S., Nev., Aug.
*Volucella hagii* Jaen., Mex.
*Copestylum marginatum* Say, Nev., Aug.
*Sericomyia militaris* Walk., Queb.
*Sericomyia chrysotoxoides* Macq., N. Ill.
*Eristalis tenax* Linn., N. Ill., New Mex., New Brunswick, Cal., R. I.
*Eristalis æneus* Fab., N. Ill.
*Eristalis hirtus* Loew, New Mex., Victoria, Br. Col., 1890.
*Eristalis dimidiatus* Wied., N. Ill.
*Eristalis saxorum* Wied., R. I.
*Eristalis latifrons* Loew, Colo., Nova Scotia.
*Eristalis brousi* Will., Wyoming, Nova Scotia.
*Eristalis occidentalis* Will., Victoria, Br. Col., Juiy, 1890; Fort Wrangel, Aug., 1890.
*Eristalis bastardi* Macq., N. Ill., Nova Scotia, Cape Breton.
*Eristalis flavipes* Walk., Victoria, Br. Col., July, 1890.
*Eristalis transversus* Wied., N. Ill., Mass.
*Eristalis albiceps* Macq., N. Ill., Fla.
*Heliophilus mexicanus* Macq., Col., Mex.
*Heliophilus latifrons* Loew, N. Ili., Mich., Wis., Tex.
*Mallota cimbiciformis* Fall., N. Y.
*Triodonta curvipes* Wied., Mex.
*Tropidia quadrata* Say, Nova Scotia, Cape Breton.
*Pocota grandis* Will., Nanaimo, Vanc. Is., Aug., 1890; abundant on elder blossoms.
*Xylota flavitibia* Will., Cape Breton July, 1894.
*Xylota fraudulosa* Loew, Mich.
*Syritta pipiens* Linn., N. Ill., Cal., Col., New Mex.
*Spilomyia quadrifasciata* Say, N. Ill.
*Temnostoma æquale* Loew, Cape Breton.
*Ceria signifera* Loew, Tenn.
*Milesia ornata* Fab., Indiana.

## OVIPOSITION OF ANTHOPHILAX ATTENUATUS.

By D. B. YOUNGS, Newport, N. Y.

About a year ago having some correspondence with Mr. Chas. Liebeck, the fact was mentioned that *Anthophilax attenuatus* was found ovipositing in the galleries of *Ptilinus ruficornis*. Mr. Liebeck then informed me that it was strange for a Longicorn to be found ovipositing in another beetle's galleries.

This year having corroborated the fact by further observation I now communicate it to the NEWS, hoping it may be of some interest to its readers. The first beetle was taken May 8, 1895, and several more on different dates until the 28th. All of the beetles were females, not a male being seen. In 1896 the first beetle was noticed on the 9th of May; their appearance may be said to date from May 8th to the 20th; those found later were probably strays. The stub which seemed to be a favorite was a maple nearly devoid of bark, but not much decayed. Two specimens were taken ovipositing in beech. The beech was cut in the Fall of 1894 and a piece split from the side of the stump. *Ptilinus ruficornis* tunneled it in the Spring of 1895, and *Anthophilax attenuatus* oviposited in their galleries the succeeding Spring.

The method of oviposition as observed upon the maple, which had many galleries and crevices, was as follows: The beetle crawled along with an odd jerky motion and carefully examined every hole and crevice which it crossed. The crevices were abandoned almost immediately; the galleries were examined with more care and evidently those selected were a year old; the beetles invariably oviposited with the head turned nearly or wholly down. One of the galleries removed after the beetle had oviposited and flown contained sixteen eggs. Nothing had been placed in the gallery to prevent parasites from entering. The eggs were placed one-half inch from the outside in three lots of four each, with their ends slightly tapering, just filling the diameter of the gallery. The eggs were cylindrical, rounded at both ends, polished, and waxy white; they were gummed together with a yellowish secretion, and were one and a half to nearly two mm. in length.

It may be worthy of note that *Teretrius americanus* was taken from the same stub and put in an appearance within a few days after the appearance of *A. attenuatus*. Whether any significance attaches to this fact or not I am unable to say.

## **Termes flavipes** Kollar **and its Association with Ants.**

By GEORGE B. KING, Lawrence, Mass.

According to the best authorities Termites have been placed in the order Neuroptera, and are therefore widely separated from that of the ants, which belong to the order Hymenoptera; nevertheless, by the ambition of quite a number of writers who would have us believe that they were entomologists when, as a fact, they have had but little knowledge of the insect creation have put them down as ants. These men seem to have been the means to educate those who have read their works to believe that Termites were really ants of a white color, so much so that it is quite hard for one in conversation with some men who have read the accounts of Termites as being white ants, to convince them of the contrary. I am also very sorry to say that very often leading entomologists of to-day will persist in following their example by calling them white ants. It is most decidedly wrong and should not be done. The Termites are in no way like an ant only as an insect, but have, however, some of the social habits, living together in colonies similar to ants and bees, having kings and queens, but up to this writing there has never yet been found a true king and queen to exist in the nest of *Termes flavipes*. Their colonies consist of supplementary queens or egg-laying individuals provided with long wing pads or sexually advanced female pupa with long wing pads and their larva. The time of the year to find these forms is from September until the ground becomes frozen, and again early in Spring. After this time they are seldom met with, at least here in Massachusetts. Sometimes we will find nests consisting wholly of these forms, having but very few workers accompanying them. The young larva and eggs of *Termes flavipes* are found at all seasons of the year, that is, occasionally so found.

Some writers have placed the exact month for the appearance of the winged males in swarming, and is called the Swarming Period or Marriage Flight, which they claim takes place in Spring. From the observations I have made it would be impossible for me to state any particular time for these winged forms to appear, as I find them to exist at all seasons of the year, but more plentifully, however, in June and July. Neither can I state the exact time of their laying of eggs as this is variable also. Some nests may contain winged males, workers and soldiers; others workers

and soldiers with a very few undeveloped laying females. Others may have only workers and soldiers, and some may contain only workers. Again, there is associated with *Termes flavipes* a clear black form, variable in size, some with wing stumps, and others, so far as I can see now, without being cleared, appear to have none. I have only met with five of these forms so far; one measured six mm. in length, another five mm., and two of these measure four mm. The fifth form I sent to Prof. L. O. Howard, not long since, with notes. He referred it to Prof. Schwartz, who has been paying some attention to the *Termes* at Washington. He reported back to Mr. Howard substantially as follows: That the species sent by me was a full developed male with winged stumps. This black form of the males of *Termes flavipes* is not rare at Washington and through the Southern States, and we have often wondered whether we have not several species mixed up among *Termes flavipes*, for it seems there are swarms of sexed Termites composed entirely of male forms (not immature ones) and others composed of dark forms, but there have been no exact observations as yet been made on this subject. He also adds that so far as he knows there is no literature pertaining to this form.

When I first observed its appearance with *Termes flavipes*, and in the nest with it, I supposed it to be a species of a Staphylinid beetle, so swift was its movements that they made them quite deceptive. They are very swift runners and hard to capture. Further observations will be necessary to determine whether these are new species or not. It is my impression, however, that they are of a different type.

During the study of the *Formica* of Massachusetts I have met with and examined thousands of nests of *Termes flavipes* associated and otherwise with ants. It is not an uncommon occurrence to find these Termites associated with a number of different species of ants. The species that I have recorded thus far as being so found are *Lasius flavus* Ltr., *L. claviger* Rog., *L. americanus* Em., *Formica fusca* L., var. *subscericea* Say, *F. integra* Nyl., *F. obscuripes* For., *Camponotus americanus* Em, *Tapinoma sissile* Say, and *Aphænogaster fulva* Rog., and a number of others observed but the names not recorded. There is no doubt that the ants in many cases collect these Termites and bring them home to their own nests, and in some cases it may be

that the *Termes* have come voluntarily or by accident into some of these nests. In either case when we find the ants and *Termes* together, they seem to be living in perfect harmony. I am perfectly satisfied, also, that some of these ants make use of the Termites in the excavation of chambers in logs and stumps, as the Termites can do this much easier than the ants. It may also be that the ants use some of the Termites the same as they do the aphides and coccids lapping up the excretions from their bodies, but I am not prepared to state this as being so as I have not observed them in this capacity. The ants can be seen carrying the Termites away to places of safety when one of their nests are disturbed, that is, if the herd is a small one. I have often noticed if the herd was a large one with the ants that when they were disturbed the ants and Termites would fight with each other, one pulling the other by their legs, antennæ, or any other part they could conveniently get hold of, but I have never yet stopped to await the final results to see which would be the most victorious. I have, however, observed several times when a Termite would let go its hold of an ant, the ant would jump for it very speedily, grabbing it in its mandibles like a dog after a fresh hold. It is said that the so-called soldier Termite protects the rest of the colony. I have yet to observe the soldier *Termes flavipes* to take any part in battle, or show any signs of protection towards the rest of the colony. What their real functions are I am unprepared to state at this writing. In some nests of ants I have found a single soldier Termite, in others only one worker, sometimes two and five, etc., where other colonies may run up with a hundred or more.

Ants not only collect the Termites for their use, but also the eggs of the Termites. I have found two examples of this, the first appears to be Aug. 18, 1894, in the nest of *Lasius flavus* L., the other on Nov. 2, 1896, in the nest of *Lasius claviger* Rog. There were hundreds of these tiny eggs in each of the nests, and the ants were attending them the same as they appeared to attend the eggs of aphids and coccids. In the last nest I found some of the small forms of *Termes*. In neither of these nests were there to be found any of the adult forms of Termites.

During my researches I have found large mounds which had contained a large and flourishing colony of *Formica obscuripes* For., but now had become a large unflourishing colony of *Termes*

*flavipes* containing but a very few of *Formica obscuripes*. Whether the Termites had become hostile to the ants, or whether they become in a crowded condition with the abundance of both species and the ants seeking new homes is a problem yet to solve. The Termites are a very hardy insect, and remain active in their nests late in the Fall, when the ants are wholly inactive. They also remain in their nests unprotected through the Winter in a torpid condition, as do many of our ants. I have not met with but a very small amount of literature treating upon ants and Termites being associated together. The only literature thus far is ("Nature" vol. xix, p. 4, 1878) by Henry O. Forbes—"Termites kept in Captivity by Ants." He speaks of *Termes lucifugus* so kept by *Formica niger* (now called *Lasius niger*). The observation was made at Naples, and in "Popular Science Monthly" we find the same account, in substance, by the editor. There are several articles in varions books on General Entomology, giving the life-history and descriptions of *Termes flavipes*, but the best account with cuts of the different forms are given in Bulletin No. 4, 1896, New Series, U. S. Department of Agriculture, Division of Entomology, written by C. L. Marlatt.

There may be other literature treating upon Termites inhabiting ants' nests, but such as I know I give to assist others that may be interested in the subject. This also should apply to all of the other articles I have written on *Formica*, or that I may write in the future. There is, however, some literature pertaining to other genera of Termites in Europe that I have not quoted and can be found in Wasmann's work on Myrmecophilous and Termitophilous Arthropoden, 1894, p. 166. I have met with but few Termitophilous insects with *Termes flavipes* as yet. The only ones found by me are *Philotermes pilosus* Kraatz, an undetermined *Homalota* sp. and *Tachyporus jocosus* Say.

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MOUTH-PARTS OF COLEOPTERA.—F. Meinert, in a paper on the buccal apparatus of insects in the "Oversigt" of the Royal Danish Scientific Society, states that his researches on two forms of genera, *Hydrophilus* and *Dytiscus*, belonging to the Coleoptera, and consequently insects with complete metamorphosis, seem to permit me to state that we are here really in the presence of four metameres which develop in such a way that the most posterior metamere with its appendages, that is the labium with the labial palps (the primary palps) disappears during embryonic development to be replaced by the anterior metamere, posterior by development, with its palps (the secondary palps).

# ENTOMOLOGICAL NEWS.

[The Conductors of ENTOMOLOGICAL NEWS solicit, and will thankfully receive items of news, likely to interest its readers, from any source. The author's name will be given in each case for the information of cataloguers and bibliographers.]

**To Contributors.**—All contributions will be considered and passed upon at our earliest convenience, and as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, three weeks before date of issue. This should be remembered in sending special or important matter for certain issue. Twenty-five "extras" without change in form will be given free when they are wanted, and this should be so stated on the MS. along with the number desired. The receipt of all papers will be acknowledged.—ED.

PHILADELPHIA, PA., OCTOBER, 1897.

## LATE COLLECTING.

BY the time this month's issue reaches our subscribers many of them will have ceased their efforts, entomologically, for the season; net and cyanide jar will be put away for future use and collections labeled and put in order in the cabinet. We, however, wish to mention the fact that many fine species fly late in the Fall and we have records of good species taken in this locality (Phila., Pa.) in September and October. *Papilio cresphontes*, *Eup. claudia*, *Jun. cœnia*, *Endam. proteus*, *Pam. ocola* and *accius*, *Callid. eubule* as well as other common species have been taken late in the season. Good things are also found in the orders other than Lepidoptera at this time of year, so it will pay those who have the time, to take an occasional collecting trip, to do so and also enjoy the glorious Autumn weather we often have.

A NEW GENUS OF BEES. *Ashmeadiella*, n. g.—Similar to *Heriades*. First recurrent nervure reaching second submarginal cell at a point distant from the origin of the first transverso-cubital more than half the length of the latter. Stigma small or subobsolete. Wings not smoky at apex; eyes bicolored, black and green; end of male abdomen with four teeth. Type *A. opuntiæ* (*Heriades opuntiæ* Ckll., An. Mag. Nat. Hist. 1897, p. 139). Includes also *A. prosopidis*, *A. meliloti*, *A. cactorum* and *A. bigeloviæ*, all described as *Heriades*. Mr. Ashmead's *Chalicodoma californica* (which may be Provancher's *Heriades albicinctum*) is probably congeneric; so also are some of Cresson's *Heriades*, such as *H. denticulatum*, *H. variolosum* and *H. osmoides* (*bucconis* Say).—T. D. A. COCKERELL, Mesilla, New Mex.

# DEPARTMENT OF ECONOMIC ENTOMOLOGY.

Edited by Prof. JOHN B. SMITH, Sc.D., New Brunswick, N. J.

Papers for this department are solicited. They should be sent to the editor, Prof. John B. Smith, Sc.D., New Brunswick, N. J.

**Ninth Annual Meeting of the Association of Economic Entomologists.**—Detroit, Mich., Aug. 12–13, 1897. The Association met in Room 212, Central High School Building, immediately following the adjournment of Section F. Thirteen active members were present, together with many visitors, prominent among the latter being Dr. C. A. Dohrn, Prof. E. B. Poulton, Dr. C. P. Hart, Dr. C. S. Minot and Dr. C. W. Stiles. The Association was called to order by the President, and in the absence of Secretary Marlatt a secretary *pro tem* was chosen. The address of the retiring president treated of "The Present and Future of Applied Economic Entomology in the United States," and contained, among other very interesting features, an admirable tribute to the value of the systematist and a somewhat caustic criticism of the "species maker," helpful suggestions for the experiment station worker, and a very frank discussion of the unfortunate results which attend the attempts sometimes made to combine politics and science.

The following were elected to active membership: G. B. King, Lawrence, Mass.; Gerald McCarthy, Raleigh, N. C.; E. P. Felt, Albany, N. Y.; A. F. Burgess, Malden, Mass.; W. B. Barrows, Agricultural College, Michigan; R. H. Pettit, Agricultural College, Michigan; W. S. Blatchley, Indianapolis, Ind.

The following were elected foreign members: Claude Fuller, Richard Helm, both of Perth, West Australia. These additions increase the numbers of this Association to ninety-three active and thirty-one foreign members.

Following the election of members, Dr. L. O. Howard presented "Additional Notes on the Parasites of *Orgyia leucostigma*." This paper gave the results of the rearing of a large number of primary and secondary parasites, and contained a general discussion of the different phases of insect parasitisms.

"Temperature Effects as affecting Received Ideas concerning the Hibernation of Insects," by the same author, showed that a sudden alternation between low and high temperatures was remarkably fatal to the larvæ of clothes moths, Buffalo carpet beetles, and other insects of allied habits.

An abstract of "Notes on Certain Species of Coleoptera that attack Useful Plants," by F. H. Chittenden, was read by secretary *pro tem*. These notes treated chiefly of the food-plants and habits of a certain Chrysomelids.

A letter from Miss E. A. Ormerod called particular attention to the fact

that the house sparrow had been very abundant and very obnoxious in certain parts of England, and it seemed probable that some legislation or public measures would need to be adopted to control this bird. The arrival from Tripoli of a cargo of wheat, badly infested by the Angoumois moth, was recorded and reference made to the occurrence in injurious numbers of *Xyleborus dispar* at Toddington.

Prof. P. H. Rolfs presented notes on "A Fungus Disease of the San José Scale." This disease seems to be confined to the southern part of the United States, but is very helpful to fruit-growers there. The scale has been almost eradicated from several orchards by this disease; laboratory and field experiments now in progress promise helpful results, but it does not seem probable that this disease will be of value in the northern part of the United States, since warmth and moisture are necessary for its development.

Mr. Barrows made a brief statement concerning the distribution of the San José scale in Michigan. The insect had been found scattered throughout the southern counties of the State, where it had probably existed for eight years. In discussing this paper Mr. Craig spoke of the occurrence of the scale in southern Ontario, where there were at least seven infested localities.

A paper from Prof. C. P. Gillette on "Insects taken at Light and Sugar," evoked considerable discussion, and was followed by "A Study of the Possible Origin and Distribution of the Chinch Bug," by Prof. F. M. Webster. The author advanced the idea that this insect had originated in the southern part of the United States and spread by two diverging streams up the Mississippi Valley and along the eastern Atlantic coast. In the former region the long-winged form predominated, while the coast form was short winged. In the discussion following this paper the general opinion seemed to be that the length of the wings depended upon environment rather than heredity. Mr. C. W. Malley recorded the capture at Ohio of a specimen having one long and one short wing, thus throwing additional light upon the relationship between the two forms.

"Notes on the Common House Fly," by Mr. Howard, gave the negative results of a series of experiments with lime, land plaster, etc., used to destroy the larvæ of the house-fly. He emphasized the necessity of greater cleanliness in the management of horse stables.

A paper from Mr. Gillette on "Vernacular names of Insects," was read and referred to a committee consisting of Messrs. Howard, Fernald and Lintner. A communication from C. P. Lounsbury, giving very interesting notes on "Cape of Good Hope Insects," particularly the locusts of that region, was then read.

Mr. H. G. Hubbard presented an account of the "Insect Fauna of the Giant Cactus," recording the capture of a large number of insects on this plant and giving notes on their habits.

Mr. Howard described "A Valuable Coccid" lately discovered in Arizona and New Mexico, from which, by suitable treatment, a good

grade of white wax could be obtained. The refuse from this operation is of the nature and consistence of India rubber and may be of commercial value.

"Notes on Insects of the Year" by Messrs. Webster and Mally, recording interesting experiences with several of the common insect pests. The negative results of a series of experiments with kainit, against the insects attacking the roots of the grape, caused considerable disussion, and the need for further experimentation along this line was pointed out.

A paper by A. H. Kirkland on "Preparation and Use of Arsenate of Lead," detailed a method of preparing this insecticide at a cost of about seven cents per pound. Work against the gypsy moth was mentioned, and the condition of the infested region was reported as generally better than that of last year. This undertaking, however, is still handicapped by insufficient financial support.

"A Malodorous Carabid" by Mr. Barrows gave extensive notes on the annoyance and discomfort caused by the almost unbearable odor of *Nomius pygmæus*.

At the final adjournment of the session it was voted to hold the next meeting at Boston, Mass., August 19 and 20.

Several resolutions were passed, among which were: (1) a resolution requesting the publication of the proceedings as a bulletin of the Division of Entomology, U. S. Dept. of Agriculture, and (2) expressing familiarity with the efforts of the State of Massachusetts to exterminate the gypsy moth and commending the results already accomplished.

The election of officers resulted as follows: President, Herbert Osborn, Ames, Iowa; First Vice-President, Lawrence Bruner, Lincoln, Neb.; Second Vice-President, C. P. Gillette, Ft. Collins, Colo.; Secretary and Treasurer, C. L. Marlatt, Washington, D. C.

A. H. KIRKLAND, Secretary, *pro tem.*

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# Notes and News.

## ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

A PICTURE for the album of the American Entomological Society has been received from Adelbert Fenyes, M.D., Pasadema, Cala.

ON A REMARKABLE USE OF ANTS IN ASIA MINOR.—"Mr. Miltiades D. Issigonis, a Greek gentleman from Smyrna, now residing in London . . . fell from his horse in Smyrna about six years ago and received a severe but clean cut of an inch or rather more in length on the forehead above the right eye. In accordance with the custom of the country he went to a Greek barber to have the wound dressed, and the barber employed at least ten living ants to bite the two sides together. Pressing together the margins of the cut with the fingers of the left hand, he applied the insect

by means of a pair of forceps held in the right hand. The mandibles of the ant were widely open for self-defence, and as the insect was carefully brought near to the wound, it seized upon the raised surface, penetrated the skin on both sides and remained tenaciously fixed while the operator severed the head from the thorax, so leaving the mandibles grasping the wound. The same operation was repeated until about ten ants' heads were fixed on the wound, and left in position for three days or therabouts, when the cut was healed and the heads removed. The ant employed is described by Mr. Issigonis as being about three-eighths of an inch long, very dark brown in color, and of a particularly fierce disposition. . . . The only other observation of a similar nature hitherto recorded appears to have been that of Mons. Emile Mocquerys [in Brazil], Ann. Soc. Ent. France, 2 sér. tom ii, p. lxvii, Bulletin Entomologique Seance du Octobre, 1844. . . . Mr. Issigonis tells me that the operation is a frequent one in the vicinity of Smyrna, and is, to the best of his belief, practised by the Turks themselves as well as by the other nationalities found in Asiatic Turkey. Unfortunately, he can give no information as to whether this treatment of cuts is followed in Greece, European Turkey, or elsewhere." —ROBERT MORTON MIDDLETON, Jr., in Journal of the Linnean Society, Zoology, vol. xxv, pages 405–6. London, 1896.

EREBUS ODORA.—I am in receipt of a letter from Mr. H. M. Allison, of Ouray, Colo., calling attention to a specimen of *Erebus odora* which he forwarded to me by mail. The letter is of interest, and I take the liberty of presenting its contents to the notice of the readers of the NEWS. Mr. Allison says: "On the morning of the 3d of July, after a snow storm, several of these moths were found on the streets of Ouray. It appeared as if they had come with the snow. On the morning of the 3d snow covered the ground to a depth of three inches, and during the celebration of the Fourth, on Monday, we had the pleasure of snowballing each other. Old residents say that such a thing was never heard of before, nor do they remember ever seeing insects like the one I send you making their appearance under such circumstances."

Sporadic appearances of *Erebus odora* in high latitudes have been frequently noted before. Their appearance in a snow storm recalls to my mind the appearance in Pittsburg, some fifteen years ago, in the midst of a heavy snow storm in the Fall, of vast numbers of the cotton-worm moth, *Aletia argillacea*, Hüb., which, while the flakes were thickly falling, whirled about the lamps and in a clothing house were swept up, as I was informed by the owner, to the amount of "several quarts."—W. J. HOLLAND.

THE APHIDIDÆ OF THE BLACK TIMBER ZONE IN COLORADO.—The Coccidæ, as we ascend the mountains, become less numerous, and so far as we know, do not occur at all in the Black Timber Zone (about 10,000 feet to timber line) in Colorado. If they should be found there it will probably be in ants' nests, which have not been searched for them at this

elevation. From the existing records one might imagine a similar absence of Aphididæ, but as a matter of fact, these insects become numerous in this region, increasing as the Coccidæ decrease. Although many Aphididæ have been reported from Colorado (Ckll., Tr. Am. Ent. Soc. 1893; Cowen Hemip. Colo. 1895), none are from 10,000 feet or above. The following list is based on notes made in the Black Timber Zone on the east slope of the Sangre de Cristo Mountains, near the Micawber Mine; the notes were all made in the field, on the living insects. While they are brief, they will serve to give some idea of the aphidian fauna, until some aphidologist can visit the district and work them up in detail:

Species 1. Whitish gray; on *Epilobium angustifolium*, August.

Sp. 2. Dark olive-brown, rather white-mealy; on *Zygadenus nuttallii*, August.

Sp. 3. White with a greenish tinge, rather elongated, eyes black, legs color of body, except ends of tarsi, which are black; at the Micawber mine, August, on *Mertensia sibirica*.

Sp. 4. Dull ochery whitish, with a dark dorsal line, eyes dark; at the Micawber Mine, August; on *Thermopsis montana*.

Sp. 5. Gray, with pale yellowish legs; Micawber Mine, on *Epilobium angustifolium*.

Sp. 6. Green, with dark or black legs and antennæ; on *Sisymbrium canescens* v. *alpestre*.

Sp. 7. Glaucous, pale green, or pale yellowish; on *Chenopodium album*.

Sp. 8. Dark brown, wings dark veined, with a large black stigma; on young shoots of *Populus tremuloides*.

Sp. 9. Dull brownish orange, or pale pinkish orange, wings hyaline; on *Heracleum lanatum*.

Sp. 10. Apple-green, legs concolorous; on *Heracleum lanatum*.

Sp. 11. Very dark gray, or black, shiny, legs pale; on *Ribes lacustre*.

Sp. 12. Pale yellowish pink, legs dark; on *Aquilegia cærulea* v. *glandulosa*.—T. D. A. COCKERELL, New Mex. Agr. Exp. Station.

## Entomological Literature.

Under the above head it is intended to note such papers received at the Academy of Natural Sciences of Philadelphia pertaining to the Entomology of the Americas (North and South). Articles irrelevant to American entomology, unless monographs, or containing descriptions of new genera, will not be noted. Contributions to the anatomy, physiology and embryology of insects, however, whether relating to American or exotic species, will be recorded. The numbers in **heavy-faced type** refer to the journals, as numbered in the following list, in which the papers are published; * denotes that the paper in question contains descriptions of new North American forms.

**4.** The Canadian Entomologist, London, Ont., '97.—**5** Psyche, Cambridge, Mass., '97.—**7.** U. S. Department of Agriculture, Division of Entomology, Washington; publications of, '97.—**8.** The Entomologist's

Monthly Magazine, London, '97.—**11.** The Annals and Magazine of Natural History, London, '97.—**12.** Comptes Rendus. L'Academie des Sciences, Paris, '97.—**21.** The Entomologist's Record, London, '97.—**33.** Sitzungsberichte der kaiserlichen Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Classe. Vienna.—**34.** Proceedings of the Iowa Academy of Sciences, iv, Des Moines, '97.—**35.** Annales, Société Entomologique de Belgique, xli, No. 6 July 10, No. 7 Aug. 14, '97, Brussels.—**36.** Transactions, Entomological Society of London, '97, part ii, July 2.—**37.** Le Naturaliste Canadien, Chicoutimi, Quebec, '97.—**38.** Wiener Entomologische Zeitung, xvi, 1-5, Jan., 15-Mar. 31, '97.—**39.** Mémoires, Société des naturalistes de la Nouvelle Russie, Odessa.—**40.** Societas Entomologica, Zürich-Hottingen, '97.—**41.** Entomologische Nachrichten, Berlin, '97.—**42.** Journal, Linnean Society, Zoology xxv. No. 163, July 30, '96. No. 164, Nov. 5, '96, No. 165, Dec. 31, '96, London. —**43.** La Cellule, xii, Lierre et Louvain, '97.—**44.** Verhandlungen der k. k. zoologisch-botanischenGesellschaft in Wien, xlvii, 6, Aug. 26, '97.

**General Works.**—Bowles, Fenn, Moberly, Dalglish, Richardson. Discussion on the attractiveness of light, **21,** July 1.—Boyer, J. The light of the glow-worm and the X-rays. La Nature, Paris, Aug. 21, '97.—Cockerell, T. D. A. Notes on Mexican flowers and their insect visitors, Botanical Gazette, Chicago, Aug., '97.—Dixey, Poulton, Trimen, Fowler and Elwes. Paper, Exhibition and Discussion on Mimicry, **36,** Proceedings.—Goodrich, E. S. On the relation of the Arthropod head to the Annelid prostomium. Quarterly Journal of Microscopical Science, xl, 2, Aug., '97.—Howard, L. O. The spread of land species by the agency of man; with especial reference to insects. Science, New York, Sept. 10, '97.—Lindau, G. On insect-inhabiting fungi, **41,** Aug.—Matthew, G. F. Description of an extinct palæozoic insect, and a review of the fauna with which it occurs, figs., 1 pl. [Thysanura?]. Bull. Nat. Hist. Soc., New Brunswick, xv, St. Johns, 1897.—Meinert, F. On the buccal apparatus of insects with a resumé in French, figs. Oversigt, Kongelige Danske Videnskabernes Selskabs Forhandlinger. Copenhagen, 1897, No. 3.—Meunier, F. Critical review of some fossil insects of the Musée Teyler [Harlem], 11 pls. Archives duMusée Teyler (2), v, 3, 1897.—Picard, F. Immunity against mosquitoes, **37.** June.—Swinhoe, C. On mimicry in butterflies of the genus *Hypolimnas*, 2 pls., **42,** 163.—Verhoeff, C. The distribution of black pigment among the tracheates, **41,** Aug.

**Economic Entomology.**—Abstracts of recent publications, **7,** Experiment Station Record, viii, 11, '97.—Anderlind, L. Forest irrigation as a means for destroying animals injurious to trees, especially insects and mice, as well as a means for equalizing surplus and lack of water in water-courses, **41,** July.—Anon. The cocoon plague on the Saguenay, **37,** July.—Apiculture. Revue Eclectique d'Apiculture mensuelle. Poitiers, fourth year 1897. The British Bee Journal, London, vol. xxv, 1897. —Cordley, A. B. Insects of the prune, figs. Oregon Agricultural

Experiment Station. Bulletin 45. Corvallis, Ore., June, '97.—Laboulbene, B. and Passy, P. *Agrilus sinuatus* destructive to pear-trees. Bulletin, Société Nationale d'Agriculture de France, lvii, 5. Paris, May, '97.—Mathieu, L. Presence of Acarines in wines, **12,** Aug. 23.—McLachlan, R. *Harpalus ruficornis* F. destructive to ripe strawberries, **8,** Aug., Sept.—Middleton, R. M. On a remarkable use of ants in Asia Minor, **42,** 164.

**Myriapoda.**—Silvestri, F. *Scolopendra cingulata* Latr. is oviparous. Atti d. Reale Accad. d. Lincei 1897. Rendiconti, July 18, Rome.

**Arachnida.**—Banks, N. Descriptions of new spiders,* **4,** Aug.—Cockerell, T. D. A. A new Attid spider,* **4,** Sept.—Pereyaslawzewa, S. The first stages of the development of the Pedipalpi, **12,** Aug. 2; The last stages of the development of the Pedipalpi, **12,** Aug. 16.

**Apterygota.**—Willem, V. The eyes and the post-antennal organs of the Collembola, **35,** 7.—See also General Works, Mathew, G. F.

**Orthoptera.**—Ball, E. D. Notes on the Orthopterous fauna of Iowa, **34.**—Bordas, L. Sympathetic nervous system of the Orthoptera, **12,** Aug. 2.—Kirby, W. F. Descriptions of new species of Forficulidæ in the collection of the British Museum, 1 pl., **42,** 165.—Morse, A. P. Notes on New England Acrididæ-iii. Oedipodinæ vii, **5,** Sept.—Scudder, S. H. Biological and other notes on American Acrididæ, **5,** Aug.

**Neuroptera.**—Anon. A rain of insects at Liège [Ephemerids]. Revue Scientifiique, Paris, Aug. 27, '97.—Briggs, C. A. A curious habit in certain male Perlidæ, **8,** Sept.—Gilson, G. On segmentally disposed thoracic glands in the larvæ of the Trichoptera, figs., **42,** 164.—Gilson, G. and Sadones, J. The larval gills of the Odonata, **42,** 164.—Henseval, M. The buccal glands of the larvæ of Trichoptera, 1 pl., **43.**—Klapalek, F. On the sexual parts of the Plecoptera, with special reference to the morphology of the genital appendages, 5 pls., **33,** cv, 8, '96.—Needham, J. G. Preliminary studies of N. American Gomphinæ (cont.),* 1 pl., **4,** Aug.

**Hemiptera.**—Baker, C. F. Notes on the genus *Deltocephalus*, **5,** Sept.—Cockerell, T. D. A. The San José Scale and its nearest allies, figs., **7,** Technical series, No. 6, '97; The food-plants of scale insects (Coccidæ), Proceedings of the U. S. National Museum, xix, No. 1122. Washington, 1897.—Handlirsch, A. On *Phimophorus spissicornis* Bergr, a hemipterological contribution, 2 figs., **44.**—Mokrzecki, S. Some observations on the cycle of the sexual development of *Schizoneura lanigera* Hausm. 1 pl., **39,** xx, '96.—Osborn, H. and Ball, E. D. Contributions to the Hemipterous fauna of Iowa, 8 pls., **34.**

**Coleoptera.**—Casey, T. L. Coleopterological Notices, vii,* Annals New York Academy of Sciences, vol. ix, p. 285, Aug., '97.—Chagnon, G. Coleopterological fauna of Manitoba, **37,** July, Aug.—Fle-

tiaux, E. List of the Eucnemidæ of the Berlin Museum; Eucnemidæ of the Flohr collection (Mexico), Berlin Museum,* **35,** 7.—Jacoby, M. New species of South American Eumolpidæ, Entomologist, London, '97.—Kulikowski, E. The Coleopterous fauna of Southern Russia, **39,** xxi, '97.—Kuwert, A. The Passalidæ dichotomously treated, part ii, the species. Novitates Zoologicæ, iv, 2, Tring (England), Aug., '97.—Lewis, G. On new species of Histeridæ and notices of others, **11,** Aug.—Pic, M. First supplement to my list of the Anthicidæ, **35,** 6.—Schoch, G. Fourth supplement to the genera and species of my Cetonid collection.* Mittheilungen Schweizerischen Entomologischen Gesellschaft, ix, 10. Schaffhausen, June. '97.—Senna, A. Descriptions of some new species of Brenthidæ, **35,** 7.—Sharp, D. On the stridulatory organs of *Trox*, **8,** Sept.—Sirrine, T. A. Note on probable life-history of *Crepidodera* (*Epitrix*) *Cucumeris* Ham., **34.**—Verhoeff, C. On the wing covers of *Cassida*, **44.**—Wickham, H. F. The Coleoptera of Canada, xxvii, The Cerambycidæ of Ontario and Quebec (cont.), figs., **4,** Aug., Sept.

**Diptera.**—Adensamer, T. On *Ascodipteron phyllorhinæ* (n. gen. n. sp.), a peculiar form of Pupipara, 2 pls., **33,** cv, 6, '96.—Kahl, P. H. I. New species of the Syrphid genera *Mixogaster* Macq. and *Ceria* Fabr.* Kansas University Quarterly, Series A, vi, 3. Lawrence, Kans., July, '97.—Mik, J. Dipterological miscellanies, **38,** 1; Some remarks on the Dipterous family Syrphidæ, **38,** 3; On the biology of *Urophora cardui* L. 2 pls., **38,** 4 and 5.—Townsend, C. H. T. Diptera from Yucatan and Campeche, i,* **4,** Aug.

**Lepidoptera.**—Anon. Rare butterflies, **4,** Sept.—Butler, A. G. Revision of the Pierine butterflies of the genus *Delias*, **11,** Aug.; An account of the butterflies of the genus *Charaxes* in the collection of the British Museum, **42,** 163.—Cockerell, T. D. A. Note on *Harrisina coracina*, **5,** Sept.—Dognin, P. New Heterocera from South America, **35,** 7.—Dyar, H. G. On the structural characters of Lepidopterous larvæ, **21,** Aug. 1; Larva of *Titanio helianthiales* Murtfeldt, **4,** Sept.; A generic revision of the Hipocritidæ (Arctiidæ), **4,** Sept.; The larva of *Crocota opella* Grote, **5,** Sept.—Frings, C. *Ocneria dispar*, **40,** June 1; A case of false albinism in *P. machaon* **40,** Sept. 1.—Fruhstorfer, H. New butterflies from South America, **41,** July.—Godman, F. D. C. and Salvin, O. Descriptions of new species of Central and South American Rhopalocera,* **36.**—Grote, A. R. Contribution to the classification of Lepidoptera: The Saturnians, with especial reference to their wing-structure, figs. (separate copy from a German journal without any indication of its source or date); Sketch of a diphyletic genealogical tree of the European butterflies, Mittheilungen aus dem Roemer Museum, Hildesheim, No. 9, Aug., '97.—Hampson, G. F. On the classification of two subfamilies of moths of the family Pyralidæ: the Hydrocampinæ and Scoparianæ,* figs., **36.**—Heath, E. F. *Grapta interrogationis*, **4,** Sept.—Henseval, M. The essence-glands of *Cossus*

*ligniperda*, 1 pl.; Researches on the essence of *C. ligniperda*, **43.**—Latter, O. H. The prothoracic gland of *Dicranura vinula* and other notes, 1 pl., **36.**—Merrifield, F. Further results of temperature experiments on pupæ of *Pieris daplidice*, **36,** Proceedings.—Moffat, J. A. *Sphinx luscitiosa* Clem., **4,** Sept.—Scudder, S. H. Notes on *Ephyra pendulinaria*, **5,** Aug.—Seitz, Dr. In the southern hemisphere, **40,** Aug., Sept.—Skinner, H. A new method of studying neuration, **4,** Aug.; A rare tract, **5,** Aug.—Snyder, A. J. A rare *Catocala* [*sappho*], **4,** Sept.—Soule, C. G. Egg-laying of *Deidamia inscripta*, **5,** Aug.—Spuler, A. A. Weismann's new experiments on the seasonal dimorphism of butterflies. Biol. Centralbl., Aug. 1, '97.—Staudinger, O. New South American butterflies, 2 pls.; The Geometridæ of the Amur region, 4 pls. Deutsche Entomologische Zeitschrift Iris, x, 1. Dresden, July 27, '97.—Tutt, J. W. The development of the wing, wing-scales and their pigments in butterflies and moths, **21,** July 1, Aug. 1; On the classification of the Lepidoptera, **21,** Aug. 1; *Nemeophila plantaginis*: its aberrations and varieties, 1 pl., **21,** Aug. 1.

**Hymenoptera.**—Cockerell, T. D. A. Contributions from the New Mexico Biological Station-vi. The New Mexico bees of the genus *Heriades* and a new *Halictus*,* **11,** Aug.; The New Mexico species of *Anthidium*, **4,** Sept.—Dalla Torre, K. W. v. On the nomenclature of the Chalcidid genera, **38,** 3.—Kieffer, J. J. Cynipides in André's Species des Hyménopteres d'Europe et d'Algerie. Tome vii, 59e Fascicule. Paris, Vve. Dubosclard, July 1, '97. Pls. iv-vi.—Konow, F. W. On the Tenthredinid genera *Cimbex* and *Trichiosoma*, **38,** 3, 4 and 5; On the classification of the Hymenoptera, **41,** May.—Leisewitz, W. Habits and metamorphosis of *Xiphydria dromedarius* F. Abstract in **41,** July, from Forstlichnaturwissenschaftliche Zeitschrift, 1897, 5.—Lucas, R. Five new *Notocyphus* species, **41,** May.—Perez, J. On a new form of buccal apparatus among the Hymenoptera, **12,** July 26.—Schmalz, J. P. Unwisdom of ants, **40,** June 1.—Thurau, F. On the habits of *Eupithecia hyperboreata* **41,** May; On the habits of *Allantus marginatus* F.; **41,** July.

## Doings of Societies.

A regular stated meeting of the Entomological Section of the Academy of Natural Sciences of Philadelphia was held Jan. 28, 1897. A specimen of *Anthophilax viridis* was presented by Mr. A. B. Van der Wielen, who captured it at Eagle Mountain, Carrol County, New Hampshire. Mr. Liebeck said the present specimen may be the only male in Philadelphia, and now that we have both sexes for study he was of the opinion that *viridis* would likely prove to be a valid species. Dr. Skinner mentioned that some

beetles had been sent here for identification in gelatin capsules; a little cotton in each end of the capsule made the contained insect fit snugly and they carried very well. The same speaker also mentioned the method as stated by Cheshire by which flies and bees are able to walk on smooth vertical surfaces. It was stated that they were able to thus hold on by the aid of a sticky substance excreted from the pulvilli. There was much discussion on this subject by the members. Dr. Calvert moved that the Section express regret on the absence of Dr. Horn and the hope that he may soon be able to attend its meetings; seconded and carried unanimously.

Meeting of April 25th.—Mr. C. W. Johnson stated that Mr. Seiss had given him a rare and interesting fly taken in Fairmount Park, Philadelphia, on July 25th. It proved to be one of the bee-flies, *Hyperechia atrox*, described by Dr. Williston, and is the only recorded specimen other than the type.

HENRY SKINNER, M.D., *Recorder*.

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Philadelphia, Sept. 14, 1897.—A stated meeting of the Feldman Collecting Social was held at the residence of Mr. H. W. Wenzel, No. 1509 S. 13th Street. Meeting called to order at 9 P. M., Vice president Castle presiding.

A communication was received from President Dr. H. G. Griffith expressing his sorrow at having to absent himself from the meetings of the Social for a long time, owing to his departure shortly for Phoenix, Ariz., for the benefit of his health. The secrerary was instructed to put the communication on file and to extend the doctor the sincere wishes of the Social for his speedy recovery to good health, with the hope of again having the pleasure of his company at the meetings in the near future.

A communication was read from T. D. A. Cockerell dated Mesilla, N. M., July 18, 1897; the same was addressed to Dr. Skinner, and was accompanied by a number of specimens of *Disonycha politula*, which he asked the doctor to kindly present to the members of the Social. The donor contributed the note appended relative to the same.

"*Disonycha politula* was described by Dr. Horn in 1889, the type localities being vaguely given as 'New Mexico and Arizona,' and nothing being known about its habits. To-day I have found in Mesilla, N. M., great quantities of a species on *Amarantus*

which I cannot regard as anything but Horn's *D. politula*. In the living insect, however, the parts of the thorax and abdomen which Horn describes as yellow are really always red; it is probable that Horn's types were faded somewhat. So far as noticed the beetle is confined to the *Amarantus*, except that occasional specimens may be seen on the surrounding herbage after it has been disturbed."

The secretary stated he had sent the thanks of the members in advance; the action was approved, and the official thanks of the members extended the donor.

In reference to the above Mr. H. W. Wenzel remarked that the specimens of *D. politula* were always red on the parts mentioned in the live insects, but that they invariably faded by the time they were mounted, thus appearing yellow.

Mr. Laurent exhibited a species of dragonfly, *Pantalia hymenæa*, captured by Mr. Wenzel, at Sea Isle City, N. J., in August; also a specimen of *Cisthene subjecta*, taken at Anglesea, N. J., Aug. 21, 1897.

Mr. H. Wenzel read a paper entitled, "Notes on some of the Salt Meadow Insects of New Jersey." The speaker exhibited some interesting species, among them being *Pogonus lecontei* Horn. Species of *Tachys*. *Bembidium*, *Dyschirius* and *Bledius*, all belonging to this particular fauna. The paper will be published in full in ENT. NEWS.

Prof Smith spoke on the life-history of the peach borer, *Sannina exitiosa*. Assertions concerning it had been repeated over and over again by entomologists without verification. From his experience the insect appears much later than was supposed, no examples of the adult occurring before the last days of June, but from that time on they continue until the beginning of September. The dates do not seem to become earlier southwardly, for the first northern were from Long Island pupæ, while those issuing September 1st came from Woodbine, in Cape May County, N. J. The species will not mate in confinement, as the speaker stated he had endeavored to bring this about, having had a number of specimens of both sexes in his laboratory during the season, and he had tried all means but without success, but in nature they will copulate soon after emerging, and eggs are laid anywhere on the trunk, or even the larger branches.

No further business being presented the meeting adjourned to the annex at 10.10 P. M.

THEO. H. SCHMITZ, *Secretary*.

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